

Notice of Allowability

Application No.

10/508,821

Applicant(s)

TANAKA, MASATO

Examiner

Crystal J. Barnes

Art Unit

2121

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Terminal Disclaimer received on 21 April 2006.
2. ☒ The allowed claim(s) is/are 1-14.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☒ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☒ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

DETAILED ACTION

1. The following is a Notice of Allowability in response to the Terminal Disclaimer received on 21 April 2006. Claims 1-14 remain pending in this application.

EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Eric S. Hyman, Reg. No. 30,139 on 28 April 2006.

The application has been amended as follows:

IN THE SPECIFICATION:

Page 4 line 7, inserted --, as shown in Fig. 16A-- after "1.5 sec".

REASONS FOR ALLOWANCE

3. Claims 1-14 are allowed.

4. The following is an examiner's statement of reasons for allowance:

As per claim 1, the prior art of record taken alone or in combination fails to teach the step of dividing a response process of disturbance recovery control into three stages including a follow-up phase, a convergence phase, and a stable phase and the convergence determination step phase manipulated variable of continuously outputting a manipulated variable which makes the controlled variable converge near the set point in the convergence phase so as to prevent a control response waveform from being disturbed before and after a switching time point between the follow-up phase and the stable phase.

As per claim 8, the prior art of record taken alone or in combination fails to teach a second manipulated variable determining unit which continuously outputs a manipulated variable which makes the controlled variable converge near the set point in the convergence phase so as to prevent a control response waveform from being disturbed before and after a switching time point between the follow-up phase and the stable phase.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should

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preferably accompany the issue fee. Such submissions should be clearly labeled

"Comments on Statement of Reasons for Allowance."

Priority

5. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

6. The following changes to the drawings have been approved by the examiner and agreed upon by applicant: Figures 14-16 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). In order to avoid abandonment of the application, applicant must make these above agreed upon drawing changes.

Terminal Disclaimer

7. The terminal disclaimer filed on 21 April 2006 disclaiming the terminal portion of any patent granted on this application which would extend beyond the

expiration date of USPN 6,892,101 B2 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following reference is cited to further show the state of the art with respect to optimization or adaptive process control in general:

USPN 5,414,741 to Johnson

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Crystal J. Barnes whose telephone number is 571.272.3679. The examiner can normally be reached on Monday-Friday alternate Mondays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Knight can be reached on 571.272.3687. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Crystal J. Barnes

CJB

28 April 2006